IN THE CLAIMS

Amend the claims as indicated below.

1   Claims 1-10   (previously canceled).

1   11.   (previously amended) A computer-implemented method of building rules
2   and constraints for a resource scheduling system, comprising:
3   displaying to a user a current rule fragment, such rule fragment comprising a
4   blank space;
5   filling said blank space with a value selected by said user, so as to create a
6   completed rule, wherein the selected value comprises a value selected from a displayed
7   list and a value that is entered directly;
8   allowing a user to impose at least one self-referential constraint on the completed
9   rule, wherein the at least one self-referential constraint is assignable to an individual to
10   be scheduled; and
11   allowing a user to impose at least one self-referential tolerance on the completed
12   rule.

1   Claims 12-17 (previously canceled).

1   18.   (previously amended) The method of claim 11, wherein said completed
2   rule refers to a goal that is unspecified in an absolute sense.

1   19.   (previously amended) The method of claim 11, wherein said completed
2   rule refers to a schedule that does not yet exist.

1   20.   (previously amended) The method of claim 11, further comprising
2   applying branching rules to previous selections of a user for filling said blank space, so
3   as to interactively and dynamically create future blank spaces and future lists of potential
4   selections.

1　　　　21.　　(previously amended)　The method of claim 20, further comprising

2　accessing a dynamic database, so as to populate said lists of potential selections in

3　accordance with the current value in real time of said dynamic database.

1　　　　Claims 22-30 (canceled).

1　　　　31.　　(currently amended)　A method of optimizing a schedule for scheduling a

2　plurality of agents, the method comprising:

3　　　　　　generating an initial schedule according to at least one rule, comprising,

4　　　　　　　　displaying a current rule fragment;

5　　　　　　　　accepting user input to create a completed rule from the rule fragment,

6　~~including,~~ wherein user input includes a selection from a displayed list, and a value

7　directly entered by the user;

8　　　　　　　　accepting a tolerance input by the user, wherein the tolerance is placed on

9　a rule;

10　　　　　　　　applying branching rules to previous user selections, such that future

11　selection lists may be generated ~~base~~ based on the previous user selections; and

12　　　　　　　　converting the completed rule into an internal representation suitable for

13　input into a resource scheduling system for generating the initial schedule;

14　　　　　　removing a shift from the initial schedule, thereby creating a shift-reduced

15　schedule, wherein the shift comprises at least one agent, at least one time slot, and at

16　least one break offset value, wherein the schedule comprises a plurality of shifts

17　assigning the agents to time slots and to break offset values;

18　　　　　　creating a plurality of possible schedules, including adding an array of different

19　possible shifts individually to the shift-reduced schedule, wherein the possible shifts are

20　break-unspecified shifts and have indeterminate break times;

21　　　　　　evaluating a score function for each of the plurality of possible schedules,

22　wherein the possible schedules have different possible shifts added, wherein the different

23　possible shifts comprise all time slots in the schedule for which the agent can work;

24   selecting an improved schedule from among the plurality of possible schedules,

25   wherein the improved schedule is characterized by an improved value of the score

26   function; and

27   scheduling the agents in accordance with the improved schedule.

1   32.   (previously submitted) The method of claim 31, wherein generating an

2   initial schedule according to at least one rule further comprises accessing a dynamic

3   database to populate the displayed lists depending on current values in the dynamic

4   database.

1   33.   (previously submitted) The method of claim 31, wherein generating an

2   initial schedule according to at least one rule further comprises assigning the completed

3   rule to at least one agent of the plurality of agents.

1   34.   (previously submitted) The method of claim 31 further comprising

2   repeatedly removing, adding, evaluating, and selecting until a locally optimal schedule is

3   obtained.

1   35.   (previously submitted) The method of claim 31 further comprising:

2   generating at least one break-unspecified shift, including unscheduling at least

3   one break to make the breaks indeterminate;

4   creating a plurality of possible break times for each break-unspecified shift,

5   including adding an array of different possible break offset values

6   for each break-unspecified shift, evaluating a score function for each of the

7   plurality of possible break times; and

8   selecting a schedule having improved break times from the possible schedules

9   having possible break times, wherein the improved break times are characterized by

10   improved scores.

1   36.   (previously submitted) The method of claim 31, wherein the evaluation

2   of the score function for a possible schedule includes the calculation of a stochastic

3   factor.

1   37.   (previously submitted) The method of claim 31, wherein the evaluation

2   of the score function for a possible schedule includes selecting one of a plurality of

3   predetermined values corresponding to distinct staffing levels for an interval in the

4   possible schedule.

1   38.   (previously submitted) The method of claim 35, wherein the plurality of

2   predetermined values comprises four values corresponding to whether the interval in the

3   possible schedule is very understaffed, slightly understaffed, slightly overstaffed, or very

4   overstaffed.

1   39.   (previously submitted) The method of claim 31, wherein the different

2   possible shifts further comprise a subset of the at least one agent and all time slots in the

3   schedule for which the subset of agents can work.

1   40.   (currently amended) A method of optimizing a schedule for scheduling a

2   set of agents, the method comprising:

3   generating a preliminary schedule from an agent list, agent staffing requirements,

4   and at least one rule specified by a user, including,

5   displaying a current rule fragment;

6   accepting user input to create a completed rule from the rule fragment,

7   ~~including,~~wherein user input includes a selection from a displayed list, and a value

8   directly entered by the user;

9   accepting a tolerance input by the user, <u>wherein the tolerance is placed on</u>

10   <u>a rule</u>;

11   applying branching rules to previous user selections, such that future

12   selection lists may be generated ~~base~~<u>based</u> on the previous user selections; and

13   converting the completed rule into an internal representation suitable for

14   input into a resource scheduling system for generating the initial schedule, wherein the

15   preliminary schedule comprises a plurality of shifts assigning the agents to slots and to

16   break offset values;

17   removing from the preliminary schedule a first shift comprising a first agent;

18   generating a plurality of possible schedules having zero or more different

19   possible shifts added, wherein the different possible shifts comprise the first agent and

20   all time slots in the schedule for which the first agent can work, and wherein the

21   different possible shifts are break-unspecified shifts and have indeterminate break times;

22   evaluating a score function for each of the possible schedules based on the

23   indeterminate break times;

24   selecting an improved schedule from among the plurality of possible schedules,

25   wherein the improved schedule is characterized by an improved value of the score

26   function; and

27   scheduling the set of agents in accordance with the improved schedule.

1   41.   (previously submitted) The method of claim 40, wherein generating an

2   initial schedule according to at least one rule further comprises accessing a dynamic

3   database to populate the displayed lists depending on current values in the dynamic

4   database.

1   42.   (previously submitted) The method of claim 40, wherein generating an

2   initial schedule according to at least one rule further comprises assigning the completed

3   rule to at least one agent of the plurality of agents.

1   43.   (previously submitted) The method of claim 40 further comprising

2   removing from the preliminary schedule a second shift comprising a second agent,

3   wherein the different possible shifts comprise the second agent and all time slots in the

4   schedule for which the second agent can work, and scheduling the second agent.

1   44.   (currently amended) A system for generating a schedule for a plurality of

2   agents, comprising:

3   an interface system configured to generate at least one rule, the interface system

4   comprising,

5   at least one display device configured to display a current rule fragment;

6   at least one input device configured to receive user input to create a

7   completed rule from the rule fragment, ~~including,~~ wherein user input includes,

8   _____a selection from a displayed list,

9   _____ ~~and~~ a value directly entered by the user;

10   _____ at least one self-referential constraint imposed on the completed

11   rule, wherein the at least one self-referential constraint is assignable to an agent to be

12   scheduled; and

13   _____ at least one self-referential tolerance imposed on the completed

14   rule;

15   a processor configured to apply branching rules to previous user

16   selections, such that future selection lists may be generated ~~base~~ based on the previous

17   user selections; and

18   a conversion processing element configured to convert the completed rule

19   into an internal representation suitable for input into a resource scheduling system for

20   generating an initial schedule; and

21   a resource scheduling system configured to generate an optimized schedule from

22   the initial schedule, including,

23   removing a shift from the initial schedule, thereby creating a shift-

24   reduced schedule, wherein the shift comprises at least one agent, at least one time slot,

25   and at least one break offset value, wherein the schedule comprises a plurality of shifts

26   assigning the agents to time slots and to break offset values;

27   creating a plurality of possible schedules, including adding an array of

28   different possible shifts individually to the shift-reduced schedule, wherein the possible

29   shifts are break-unspecified shifts and have indeterminate break times;

30   evaluating a score function for each of the plurality of possible schedules,

31   wherein the possible schedules have different possible shifts added, wherein the different

32   possible shifts comprise all time slots in the schedule for which the agent can work;

33   selecting an improved schedule from among the plurality of possible

34   schedules, wherein the improved schedule is characterized by an improved value of the

35   score function; and

36   scheduling the agents in accordance with the optimized schedule.

1   45.   (previously submitted) The system of claim 44, wherein interface system

2   further comprises a dynamic database, wherein generating at least one rule further

3   comprises accessing the dynamic database to populate the displayed lists depending on

4   current values in the dynamic database.

1   Claim 46   (canceled).

1   47.   (currently amended) A computer-readable medium, having instructions

2   stored thereon, which when executed, cause at least processor to:

3   generate an initial schedule according to at least one rule, comprising,

4   displaying a current rule fragment;

5   accepting user input to create a completed rule from the rule fragment,

6   ~~including,~~ wherein user input includes a selection from a displayed list, and a value

7   directly entered by the user;

8   accepting a tolerance input by the user;

9   applying branching rules to previous user selections, such that future

10 selection lists may be generated ~~base~~ based on the previous user selections; and

11   converting the completed rule into an internal representation suitable for

12 input into a resource scheduling system for generating the initial schedule;

13   remove a shift from the initial schedule, thereby creating a shift-reduced

14 schedule, wherein the shift comprises at least one agent, at least one time slot, and at

15 least one break offset value, wherein the schedule comprises a plurality of shifts

16 assigning the agents to time slots and to break offset values;

17   create a plurality of possible schedules, including adding an array of different

18 possible shifts individually to the shift-reduced schedule, wherein the possible shifts are

19 break-unspecified shifts and have indeterminate break times;

20   evaluate a score function for each of the plurality of possible schedules, wherein

21 the possible schedules have different possible shifts added, wherein the different

22 possible shifts comprise all time slots in the schedule for which the agent can work;

23   select an improved schedule from among the plurality of possible schedules,

24 wherein the improved schedule is characterized by an improved value of the score

25 function; and

26   schedule the agents in accordance with the improved schedule.

1   48.   (previously submitted) The computer-readable medium of claim 47,

2 wherein generating an initial schedule according to at least one rule further comprises

3 accessing a dynamic database to populate the displayed lists depending on current values

4 in the dynamic database.

1   49.   (previously submitted) The computer-readable medium of claim 47,

2 wherein generating an initial schedule according to at least one rule further comprises

3 assigning the completed rule to at least one agent of the plurality of agents.

1   50.   (previously submitted) The computer-readable medium of claim 47,

2 further comprising repeatedly removing, adding, evaluating, and selecting until a locally

3 optimal schedule is obtained.

1   51.   (previously submitted) The computer-readable medium of claim 47,

2 wherein the instruction, when executed, further cause the at least one processor to:

3   generate at least one break-unspecified shift, including unscheduling at least one

4 break to make the breaks indeterminate;

5   create a plurality of possible break times for each break-unspecified shift,

6 including adding an array of different possible break offset values

7   for each break-unspecified shift, evaluate a score function for each of the

8 plurality of possible break times; and

9   select a schedule having improved break times from the possible schedules

10 having possible break times, wherein the improved break times are characterized by

11 improved scores.

1   52.   (previously submitted) The computer-readable medium of claim 47,

2   wherein the evaluation of the score function for a possible schedule includes the

3   calculation of a stochastic factor.

1   53.   (previously submitted) The computer-readable medium of claim 47,

2   wherein the evaluation of the score function for a possible schedule includes selecting

3   one of a plurality of predetermined values corresponding to distinct staffing levels for an

4   interval in the possible schedule.

1   54.   (previously submitted) The computer-readable medium of claim 51

2   wherein the plurality of predetermined values comprises four values corresponding to

3   whether the interval in the possible schedule is very understaffed, slightly understaffed,

4   slightly overstaffed, or very overstaffed.

1   55.   (previously submitted) The computer-readable medium of claim 47,

2   wherein the different possible shifts further comprise a subset of the at least one agent

3   and all time slots in the schedule for which the subset of agents can work.